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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,186	02/13/2004	David Sutherland	45283.118	2185

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EXAMINER	
CANTELMO, GREGG	
ART UNIT	**PAPER NUMBER**
1745	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/708,186	SUTHERLAND ET AL.	
	Examiner	Art Unit	
	Gregg Cantelmo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 March 2007* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the amendment received March 22, 2007:

a. The originally filed claims are pending;

b. The amendment to the drawings and specification have been considered but are held to introduce new matter;

c. The prior art rejection of record stands.

Specification

2. The amendment filed March 22, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The addition of reference character 51 is made concurrently with the amended drawings, however the original disclosure fails to clearly and adequately support this claimed amendment and constitutes new matter. Applicant is required to cancel the new matter in the reply to this Office Action.

Drawings

3. The drawings were received on March 22, 2007. These drawings are not accepted. The compression plate shown in Fig. 4 is of significant detail which is unsupported in the original disclosure. Thus the configuration shown in replacement Fig. 4 is held to introduce new matter into the application and has not been approved.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/57384 (WO '384).

WO '384 discloses a planar solid oxide fuel cell stack 10 comprising a lower horizontal compression plate (not shown but inherent to impart the requisite compression described in WO '384), an upper horizontal compression plate (not shown but inherent to impart the requisite compression described in WO '384), a plurality of interleaved fuel cells 16, seals and interconnects 12, 14, a cathode current collector plate 22 and an anode current collector plate 18 disposed between the upper and lower compression plates, wherein the stack defines vertical fuel intake and exhaust manifolds and vertical air intake and exhaust manifolds, said stack comprising: (a) a seal element 34 having a cell opening; (b)a compressible, conducting element 42 disposed within the cell opening of the seal element 34; (c)wherein the seal element 34 and the compressible element 42 are disposed between the cathode current collector plate and a terminal interconnect at the cathode end of the stack or between the anode current collector plate 18 and a terminal interconnect 12 at the anode end of the stack, or both. (Fig. 2 as applied to claim 1).

Possible examples of the compressible means for use on the anode side of the fuel cell include a structure, such as a metallic corrugation or a porous metallic felt,

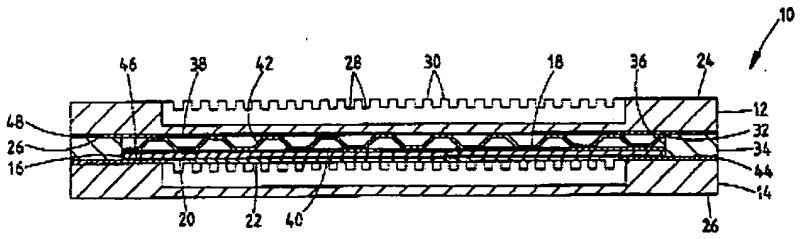
which retains some resilience at the operating temperature; and a composite of a porous brittle material and a metal (page 4, ll. 24-27). A porous metallic felt is held to be identical to a metallic foam (as applied to claim 2).

The preferred metal is nickel (page 4, ll. 18-22 as applied to claim 3).

The seal element 34 defines an area where fuel passes from the intake manifold 54 such that fuel pass through and around compressible element 42 (Fig. 2 as applied to claim 4).

The interconnect 24 comprises flow directing ribs 30 in contact with an electrode surface and the conducting element 42 (Fig. 2 as applied to claim 5).

WO '384 discloses a planar solid oxide fuel cell stack having a compression plate (not shown but inherent to impart the requisite compression described in WO '384) and a terminal fuel cell (inherent to a fuel cell or stack of fuel cells), said fuel cell stack comprising: (a)a current collector plate 38 comprising a substantially planar element disposed immediately adjacent the compression plate 12; (b)an interconnect plate 40 disposed immediately adjacent and in electrical contact with the terminal fuel cell 16; (c)a compressible layer 42 comprising a compressible electrically conductive element 42 in electrical contact with the interconnect plate 40 and the current collector plate 38 (Figs. 1 and 2 as applied to claim 6).



The compressible layer 42 comprises a sealing component 34 surrounding the compressible layer (Figs. 1 and 2 as applied to claim 7).

The compressible element 42 comprises nickel and the seal element 34 defines a fuel passage for diverting fuel from an intake manifold 54, through or around the compressible element and into a fuel exhausts manifold 56 (Fig. 2 as applied to claim 8).

Possible examples of the compressible means for use on the anode side of the fuel cell include a structure, such as a metallic corrugation or a porous metallic felt, which retains some resilience at the operating temperature; and a composite of a porous brittle material and a metal (page 4, ll. 24-27). A porous metallic felt is held to be identical to a metallic foam. The preferred metal is nickel (page 4, ll. 18-22 as applied to claim 9).

Response to Arguments

5. Applicant's arguments filed March 22, 2007 have been fully considered but they are not persuasive.

Applicant argues that WO '384 (Donaldson) does not teach or disclose of current collector plates disposed between the compression plates.

The examiner respectfully disagrees.

Each of the elements 18, 22, 38 and 40, are conductive materials to permit current to flow through and to these elements. Thus all of the conductive elements in a fuel cell stack which are disposed within the electrical circuit of the fuel cells can be broadly construed as a current collector.

Furthermore the claims fail to structurally define the claimed current collector so as to differentiate from those elements in WO '384 discussed above and held to be a form of a current collector.

Applicant further argues that element 40 is not an interconnect plate but is one of three layers of the compressible element 32. However in a broad sense, element 40 does provide an electrical bridge between the fuel cell and interconnect and thus interconnects the described interconnect and fuel cell of WO '384.

Applicant further argues that element 12 is not a compression plate but is an interconnect member. However, in a broad and reasonable sense, element 12 imparts compressive force upon the fuel cell elements and compressible element of WO '384 and thus can be reasonably construed as a compression plate.

While the various elements of WO '384 and that of the instant application may not be described by the same terms, it is the structure of the claimed invention relative to the structure of WO '384 that has been compared. In rebuttal of each element of Applicant's arguments, it is held for reasons set forth in the previous office action and herein, that while the names of the various elements of WO '384 and the instant application may not be identical, it is held that the structural elements of WO '384 relied upon in the context of the claimed invention provide the same claimed functionality and thus can still be interpreted as those elements identified in the claim.

While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art

in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Applicant's response fails to meet the burden to show how any of the elements relied upon in the prior art rejection of record do not provide the same claimed function.

Therefore the prior art rejection of record stands.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregg Cantelmo
GREGG CANTELMO
PRIMARY EXAMINER
28 MARCH 2007

Primary Examiner
Art Unit 1745

gc
march 28, 2007